



User Manual

IT-Infrastructure

RAC2000 series



Industrial IT

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1 Remarks

1.1 Relevant Documentation for this device

The following documents are essential for setting up and operating this device:

User Manual (This Documentation):

Contains information for installation, commissioning and operating the device along with technical data of the device hardware.

Qucik Start Guide:

Quick Install Guide for fast commissioning.

1.2 Used Symbol Explanation



Warning:

The "Warning" symbol refers to activities which might cause personal injury or damage to the hardware or software!



Note:

The "Note" symbol familiarises you with conditions to be observed in order to ensure flawless operation. Additionally, hints and advice are given for a more efficient use of the device and for software optimisation.

1.3 Data, Figures, Modifications

All texts, data and figures are non-binding. We reserve the right of modification in accordance with technological progress. At that point in time when the products leave our premises, they comply with all currently applicable legal requirements and regulations. The operator/operating company is independently responsible for compliance with and observance of any subsequently introduced technical innovations and new legal requirements, as well as for all usual obligations of the operator/operating company.

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1.5 Copyright

This manual, including all contained figures, is protected by copyright law. Any use for third parties non-compliant with the copyright provisions is prohibited. Any reproduction, translation as well as electronic and photographic archiving and modification shall only be permitted after explicit written authorisation by ads-tec GmbH.

Any party in violation of this provision shall be obliged to damage compensation.

1.6 Environmental Conditions

The device may be operated under the following conditions. Failure to observe these specifications will terminate any warranty for this device. Ads-tec cannot be held liable for any damages arising due to improper use and handling.

- Environmental Conditions

in Operation	-20°C ... + 55°C (if installed vertically)
For Storage	-20°C ... + 55°C

- Humidity

In Operation	10 ... 85% without condensate
For Storage	10 ... 85% without condensate

- Vibrations

In Operation	1 G, 10 ... 500 Hz (DIN EN 60068-2-6)
--------------	--

- Shock resistance

In Operation	5 G, with a half-wave of 30 ms duration (DIN EN 60068-2-29)
--------------	--

1.7 Standards

This device complies with the requirements and protective aims of the following EC regulations:

Standards

- This device meets the test requirements for granting the CE sign according to the European test standards EN 61000-6-4 and EN 61000-6-2
- This device complies with the test requirements in accordance with EN 60950 (VDE0805, IEC950) "Safety of Information Technology Equipment"
- The device meets the EN 60068-2-6 test requirements (sinus excitation).
- This device meets the EN 60068-2-27 test requirements (shock resistance test)



Note:

A respective conformity declaration for the authority in charge is available at the manufacturer and may be viewed on request.

All connected components, as well as cable connections must also meet these requirements for compliance with the EMC legislation. For this reason, screened bus and LAN cables including screened connectors must be used and installed according to the instructions in this user manual.

1.8 Equipment Version

This device is offered in 2 different equipment versions.

Equipment Version	RAC2110	RAC2120
24V DC	X	X
RJ45	X	X
1 WLAN Modul	X	
2 WLAN Module		X

RJ45 ist ein Ethernet-Standard, wie er häufig in der Telekommunikationswelt verwendet wird. Die Übertragungsart entspricht 10/100/1000Mbps half & full DUPLEX 1000 BASE-TX.

1.9 Scope of Delivery

Please check that all of the following components are contained in the packaging:

Scope of Delivery **RAC2000 series**

- 1 x Rugged Access Client
- 1 x 3 pin plug
- Installation screws
- Quick Guide Commissioning / Quick Guide Mounting
- GNU General Public License

2 Notes on Operation & Safety

This device contains electrical voltages and extremely sensitive components. Intervention by the user is only designated for establishing the required cable connections. The manufacturer or a service partner authorised by the manufacturer should be consulted if you plan to make further modifications. Before beginning any works on this device, it must be disconnected from the power supply. Suitable measures for avoiding any electrostatic discharges towards components must be taken. If the device is opened by an unauthorised person, hazards for the user might arise and any warranty claim will cease.

General Instructions

- All users must read this manual and have access to it at all times
- Installation, commissioning and operation may only be carried out by trained and qualified staff
- The security instructions and the manual itself must be observed by all persons who work with this device
- At the location of use, the valid guidelines and regulations for accident prevention must be observed
- The manual contains the most important instructions on how to use this device in a safe way
- Appropriate storage, proper transport, installation and commissioning, as well as careful operation are prerequisites for ensuring safe and proper operation of this device



Note:

Only original ads-tec firmware / software is allowed for any of the adjustments and features described in this User's Guide. Deployment of any firmware / software that has not been released by ads-tec will terminate all warranty conditions.

2.1 Sicherheitshinweise



Warning:

Any installation works on the device are only permitted if the power supply is switched off, and handling the device is safe.



Warning:

All unit mounting operations must be strictly conducted under safe, secure and zero-potential conditions.



Note:

Please observe applicable security measures when handling electronic components sensitive to electrostatic charges.
(DIN EN 61340-5-1 / DIN EN 61340-5-2)

2.2 Operation Location

This device is designed for use in industry. You must ensure compliance with the specified environmental conditions. Using the device in non-specified environments, e.g. on board ship or in areas containing explosive vapours, gases or gas mixes, as well as in extreme heights, is prohibited.

**Warning:**

If this device is used outdoors, it must be located inside the protective area of a lightning arrester. You have to make sure that all conductive systems introduced from outdoor areas and connected to the device are equipped with a lightning arrester/potential equalisation system.

This device may only be switched on after the required ambient temperature is reached in order to avoid condensate accumulation. The same applies if the device has previously been exposed to extreme temperature variations.

To avoid overheating in operation: Do not expose the device to any direct radiation by sunlight or any other light or heat source.

**Warning:**

This is a Class A device. In a domestic environment this device may cause radio frequency (RF) interference, in which case the user may be required to take adequate measures.

**Warning:**

To avoid personal injury resulting from RF energy, a minimum distance of 20 cm must be maintained to the device

**Warning:**

For the prevention of water condensate accumulation, the unit should be turned ON only when it reaches ambient temperature. This particularly applies when the unit is subject to extreme temperature fluctuations and/or variations.

Avoid overheating during unit operations; the unit must not be exposed to direct sunlight or any other direct light or heat sources.

2.3 Damage Caused By Improper Use

This device must immediately be shut down and protected from any accidental commissioning if the operating system shows any obvious damage caused by, for example, improper operating or storage conditions, or by improper use or handling.

2.4 Warranty / Repair

During the warranty period, any repair must only be carried out by the manufacturer or by a person authorised by the manufacturer.

2.5 GENERAL NOTES ON THE 5GHZ VERSION (802.11 A / 802.11 H) ETSI

General Notes

- This device has been certified for use with channels in the 5 GHz band in accordance with ETSI EN 301 893 V1.5.1. With respect to this, users must observe the following notes:
- The Access Client is using TPC on all 5 GHz channels by default with both, indoor and outdoor configuration as well. For this reason, the devices can always be operated with a maximum transmission power of 23 dBm.
- 802.11a outdoor channels are not available for a fixed setup.



Note:

All channels for the 5 GHz band are automatically detected via auto setup.



Warning:

These notes must be observed when operating the devices:

- This device does not provide a "safe" data transmission medium
- These devices do not allow establishment of any real time systems.
- These devices do not have any deterministic system behaviour
- No MIN/MAX roaming time is guaranteed

Adherence to settings with the applicable requirements by the regulatory authority and observance of valid antenna amplification limits is the responsibility of the operator/operating company.

3 Mounting

3.1 Mounting options

This device is designed for industrial use and can be used in all places, where the required ambient conditions are not disregarded. For reason of an easier installation and better operation, this device should be installed in a place where there is no interference with the radio characteristics, if possible. Radio characteristics are primarily affected by iron beams and massive concrete walls.

**Warning:**

Avoid overheating in operation. Never expose the device to any direct irradiation by the sunlight or any other light source. IP 65 protection is only achieved with proper installation. The tolerance in drawings amounts to +/- 1.5 mm.

3.2 External Device Dimensions

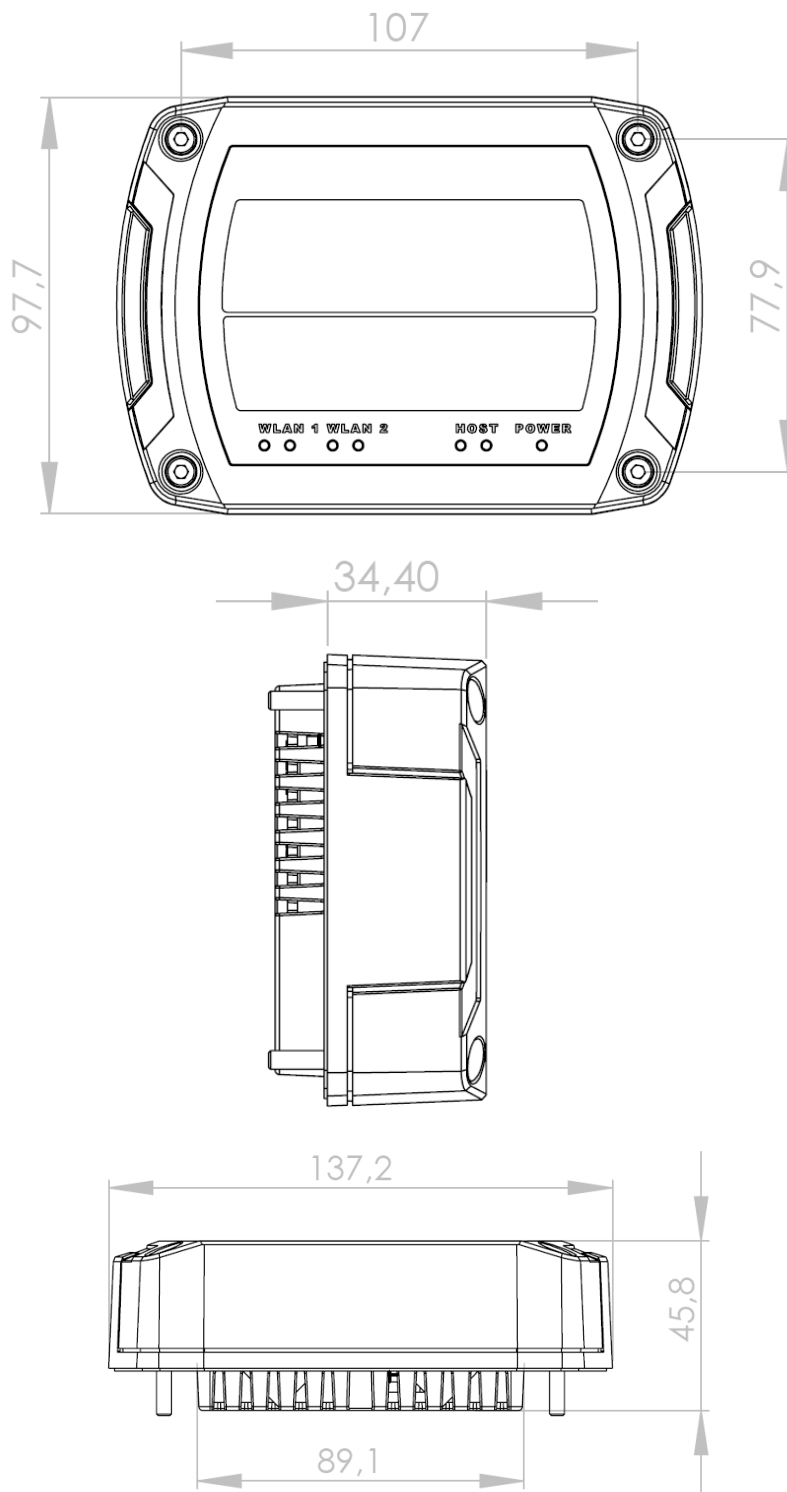


Abb. 1:

3.3 Mounting options

This device is designed for installation inside a switching cabinet. It can be installed at the place of installation by using the supplied M4 x 20 Allen screws. Hole distances can be determined by using the drilling template.



3.4 Layout for Device Installation

Drilling template

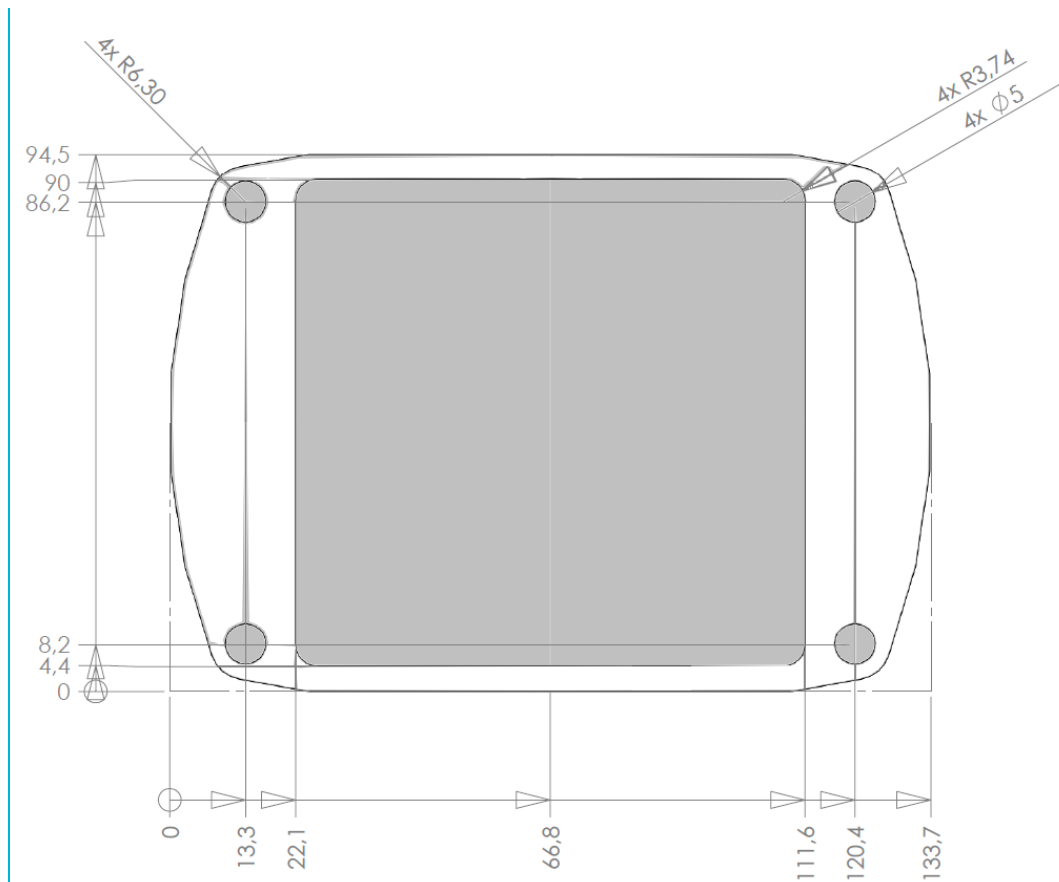


Abb. 2:



Note:

The shown installation layout is not a 1:1 scale view.

Please find the 1:1 scale figure in the Installation section of the Quick start guide.



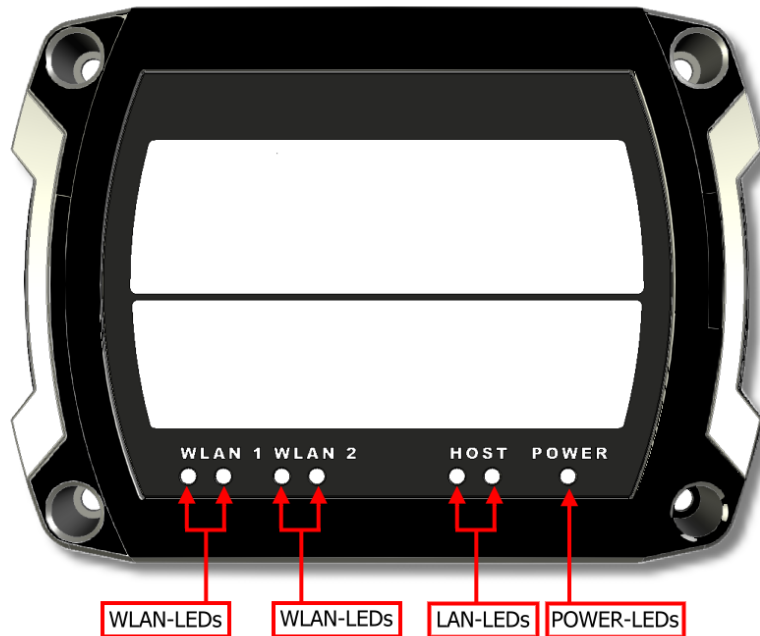
Note:

The hole diameter for the fixing screws should be at least 5mm.

4 System Features

4.1 General LED Status

The status of different interfaces is shown by the integrated LEDs. This allows the device status to be diagnosed directly at the place of use. The available device status displays are shown in the overview.



LED Status	representation
off	<input type="checkbox"/>
green	<input checked="" type="checkbox"/>
green flashing	<input type="checkbox"/>
red	<input checked="" type="checkbox"/>
orange	<input type="checkbox"/>
orange flashing	<input type="checkbox"/>



Note:

Subsequently described LED displays are abbreviated as follows:

Left-hand LED = LINK (readiness for operation)

Right-hand LED = ACT (activity)

4.1.1 PWR / CUT & ALARM / VPN 3G

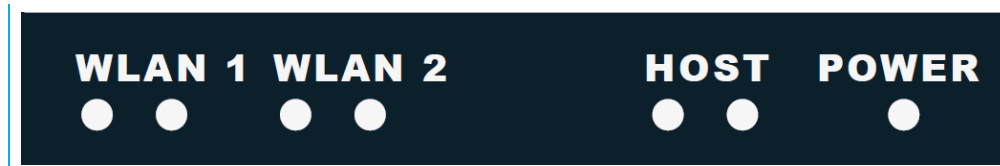


Abb. 3:

WLAN (1) / (2)	Signal	Action
Left LED Link		Device is searching for available WLAN networks.
Left LED Link		Device is connected to WLAN network
Right LED ACT		There is no traffic between the device and the remote station
Right LED ACT		Displays the traffic between the device and remote.
HOST	Signal	Action
Left LED Link		The interface is not connected to a remote station
Left LED Link		The interface is connected to a remote site and is ready for use
Right LED ACT		There is no traffic between the device and the remote station
Right LED ACT		Displays the traffic between the device and remote.
POWER	Signal	Action
		The device is not powered
		The device is supplied with power via Power and is ready
		The device has a fatal firmware error. Its can only be solved by ads-tec

4.2 Operational LED Status Displays

4.2.1 Status Display Activities when Booting

The booting process starts as soon as the RAC2000 device is connected with a power source. You can check if the device boots by using the HOST LEDs. By means of the following diagram, the correct booting process can be traced by watching the flashing frequency of the LEDs. No HOST cable is connected in this case.



Note:

If the WLAN interface is enabled in the firmware, the RAC2000 device is permanently looking for WLAN networks once the booting is completed.

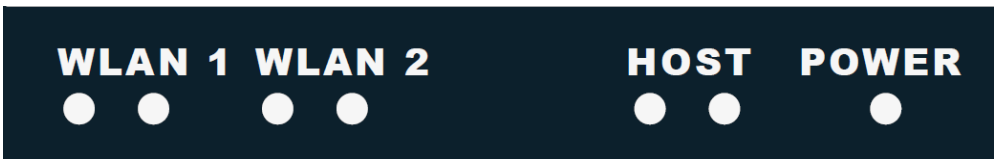
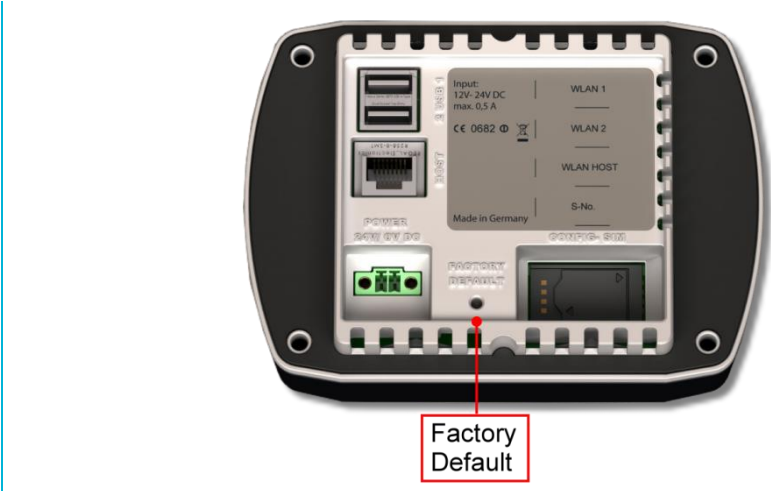


Abb. 4:

WLAN (1) / (2)	Signal	Action
Left LED Link		Device is searching for available WLAN networks.
HOST	Signal	Action
Left LED Link		LEDs blink twice briefly
Rechte LED Link		LEDs blink twice briefly
Right LED ACT		LED blink fast
Right LED ACT		LED turns out
POWER	Signal	Action
		The device is supplied with power via Power and is ready

4.2.2 Status display activities when resetting to default settings

By using the default setting button on the rear of the device, the RAC2000 can be reset to the default settings regardless of the configuration.



The default setting button must be pushed, and the device then be switched on, in order to reset the device to the default settings. The default setting button must be pushed for approx. 20 seconds. As soon as both HOST LEDs flash, you can release the button. No HOST cable is connected in this example. By means of the following diagram, the correct factory default process can be traced by watching the flashing frequency of the LEDs.

WLAN 1

WLAN 2

HOST

POWER

WLAN (1) / (2)	Signal	Action
Left LED Link	<div></div>	Device is searching for available WLAN networks.
HOST	Signal	Action
Left LED Link	<div></div> <div></div>	LEDs blink twice briefly
Rechte LED Link	<div></div> <div></div>	LEDs blink twice briefly
Lft LED ACT	<div></div>	LED turns out
Right LED ACT	<div></div>	LED turns out
POWER	Signal	Action
	<div></div>	The device is supplied with power via Power and is ready

4.2.3 Status display activities with Firmware Updates

A firmware update can be made by using the web interface. The actual process of updating might take a few minutes. By means of the following diagram, the correct firmware update process can be traced by watching the flashing frequency of the LEDs.

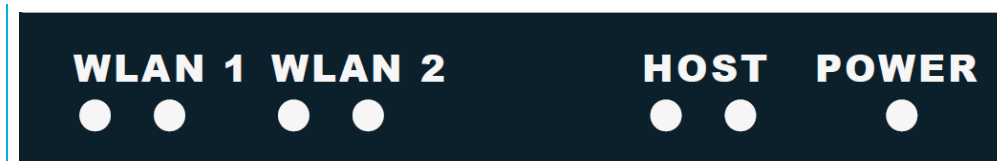


Abb. 5:

WLAN (1) / (2)	Signal	Action
Linke LED Link		Device is searching for available WLAN networks.

HOST	Signal	Action
Link / Act		LEDs are flashing with fast speed
Link / Act		LINK turns off / ACT is flashing
Link / Act		LINK illuminates constantly / ACT turns off
Link / Act		LINK illuminates constantly / ACT is flashing slowly
Link / Act		LINK illuminates constantly / ACT is flashing with high speed
Link / Act		LINK illuminates constantly / ACT turns off

Subsequently, the web interface can be started by using the "Attempt to reconnect" menu item

POWER	Signal	Action
		The device is supplied with the voltage via POWER and is ready for operation.

4.3 Device Overview

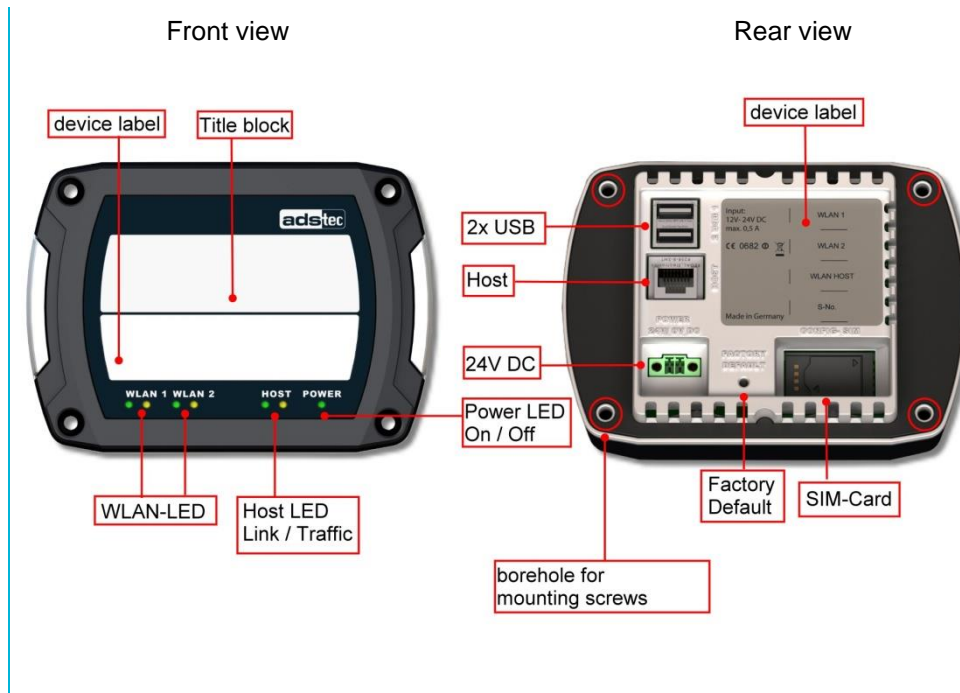


Abb. 6:

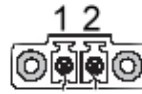
The device has the following connections:

1. 1 x Power 24V DC power supply (2-pin COMBICON connector)
2. 1 x HOST RJ45
3. 1 x Factory Default
4. 1 x SIM Card Reader
5. 2 x USB

4.3.1 24 VDC Power Supply

The power supply voltage is supplied via a feed-through clamp including screw connection (figure shows socket in the device).

Pin-Number	Signal-Name
1	24V DC
2	0V DC

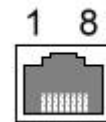


Technical Data of the Power Supply

- Input: 7...36V DC

4.3.2 HOST (RJ45)

Pin-Number	Signal-Name
1	TX +
2	TX -
3	RX +
4	NC
5	NC
6	RX -
7	NC
8	NC



4.3.3 USB-Connections

The SIM card reader is used for storing configuration data.

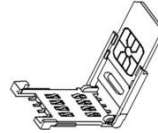
Pin-Number	Signal-Name
1	VDC
2	D -
3	D +
4	GND



4.3.4 SMARTCARD READER according to ISO 7816

The SIM card reader is used for storing configuration data.

Pin-Nummer	Signal-Name
1	VCC 5 Volt
2	RESET
3	CLOCK
4	NC
5	GND
6	NC
7	I/O
8	NC



5 Commissioning

5.1 Initial-Commissioning

**Achtung:**

The initial installation of this device can only be performed by using the RJ45 interface labelled with HOST.

A RJ45 PATCH CABLE IS REQUIRED FOR INITIAL CONFIGURATION.

Connecting the 24 V DC power source

The power for this device can be supplied by a 24V DC (2-pin connector) power supply. The corresponding COMBICON connector is included in the scope of delivery.

Connect the device with a suitable power supply unit.

RJ45 network cable connection

For initial installation it is essential to establish a connection between this device and a PC by using a RJ45 network cable.

To connect the device with a PC:

Device HOST connector <-> PC LAN connector

5.2 Manual Network adapter configuration



Note:

The notes below have been created by using Windows XP®. Should you use a different operating system, the directory paths and properties described here might vary.

Open the Properties tab of the network adapter you are using. The directory path is:

Start> Settings> Network connections> LAN connections> Properties.

Select the following option in the pop-up dialogue: Internet protocol (TCP/IP); then click on Properties .

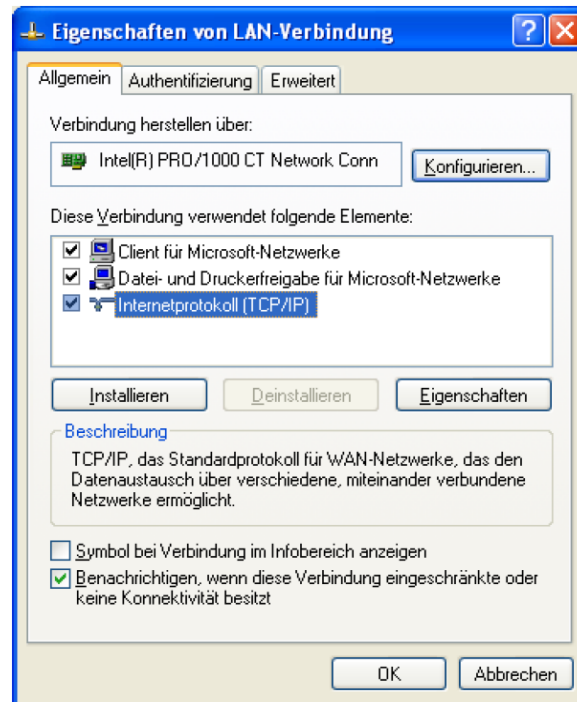


Abb. 7:

Here select the following item: Use following IP address

Access to the device will only be enabled once the following parameters have been entered as the fixed IP address, or if the computer is located in the same subnet area:

IP Address: 192.168.0.100



Note:

(The last section of digits must represent a number between 1 and 253; the value "100" was selected in the example)

Once the IP address is entered, you have to input the Subnet mask address. If you click into the Subnet mask box, the correct address is automatically entered.

Subnet Mask: 255.255.255.0

You can now close the dialogue boxes by pushing the "OK" button.

5.3 Settings for use with Internet Explorer 8



Warning:

If Internet Explorer 8 is used, issues with the web interface might occur. If you experience any problems, the IP address of the device must be entered in the Local Intranet list in order to display the web interface correctly.

Open Internet Explorer and navigate to the Security tab with the following directory path:

Tools→Internet options→Security

Switch to the Local Intranet tab and click there on Sites..

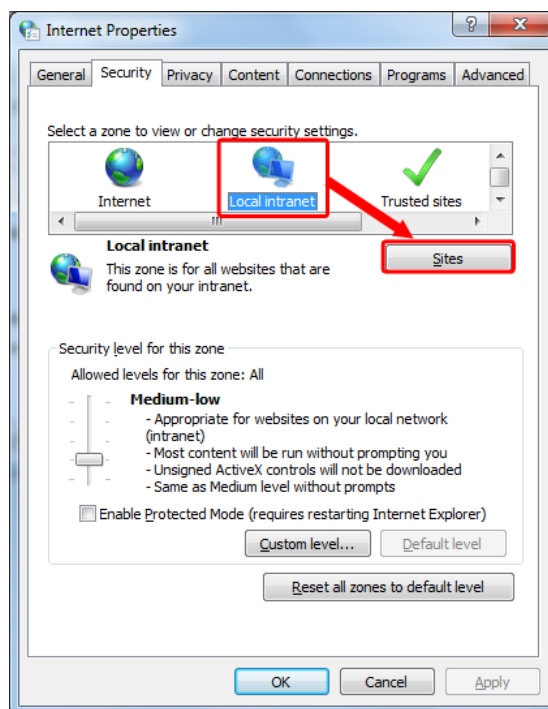


Abb. 8:

Then click on Advanced.

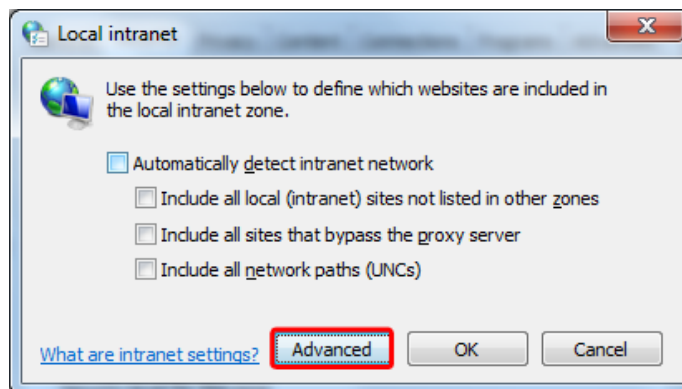


Abb. 9:

In the Add this website to the zone address line, enter the device IP address and confirm this step with Add.

Default IP address: <http://192.168.0.254>

The entered IP address should now appear in the list under Websites.

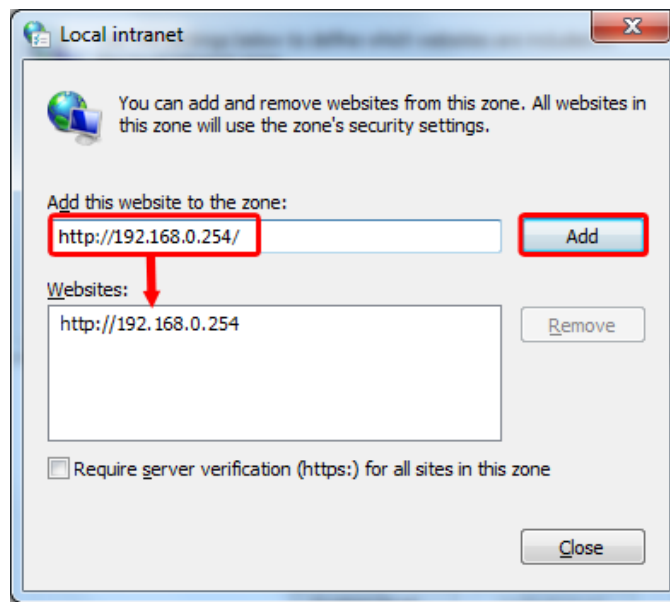


Abb. 10:

5.4 Calling up the Device Web Interface

To access and open the device web interface, start up your web browser. In the browser's address bar, enter the following IP address then confirm with Enter

http://192.168.0.254

Login

Once the IP address has been entered with success, the login prompt appears. In the login prompt, entry of the default settings is required.

The default configuration in just-delivered conditions is:

User Name : admin

Password : admin

Confirm your entries by clicking on: OK



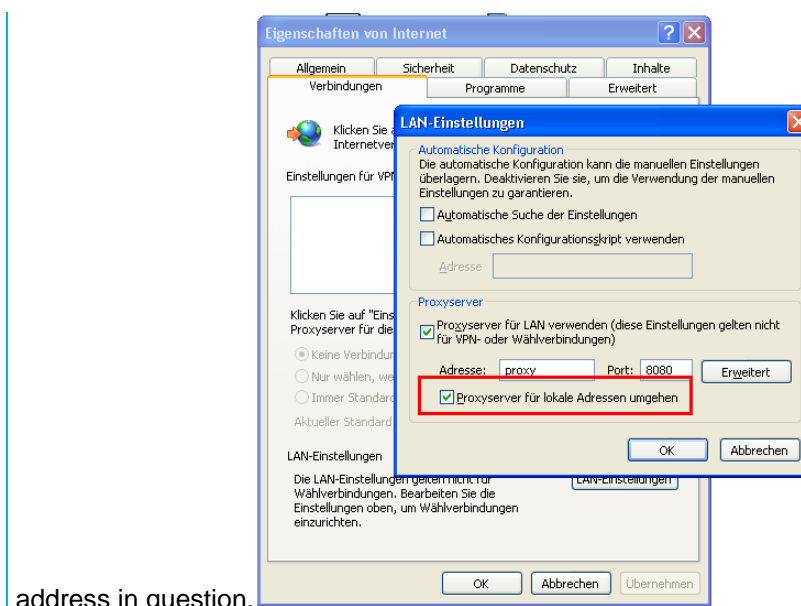
Abb. 11:



Note:

If the login prompt does not appear, check to ensure that the device has been connected via a RJ45/LWL optic fibre connection cable. Otherwise, connect the device up to a PC (Device LAN-in/LAN-out connection <> PC LAN connection).

If there still is no connection to the firewall login prompt, it is necessary to check the proxy and local firewall settings. It often occurs that also local subnet addresses (e.g. 192.168.x.x) are diverted to a proxy server. In this case it is possible to select the "Bypass proxy server for local addresses" option to enter the



address in question.

Finally, the device web interface will come up on screen.

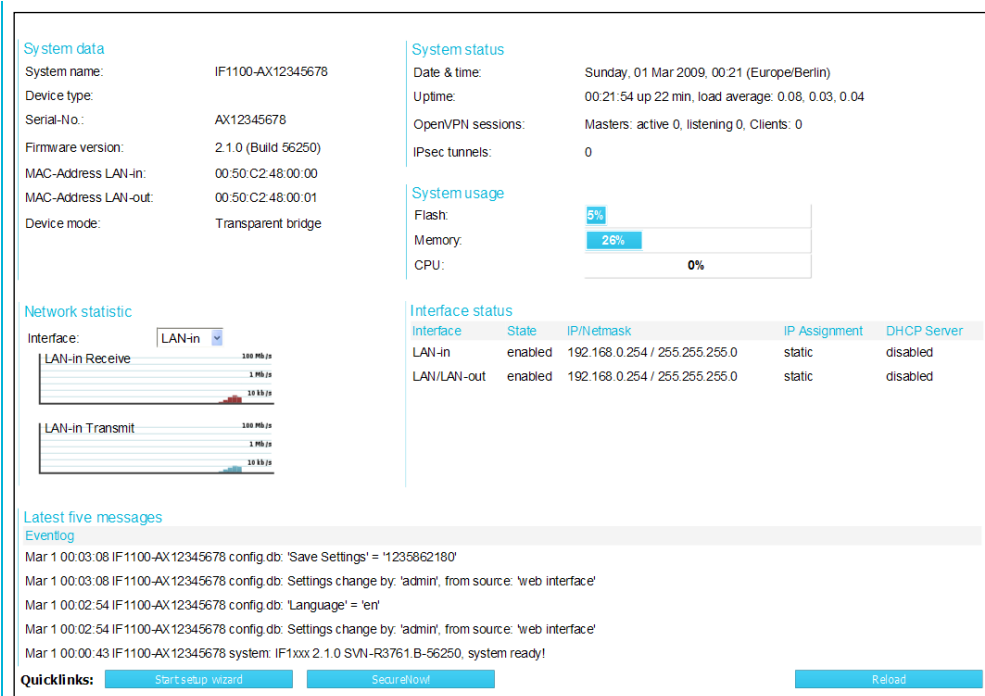


Abb. 12:

6 Approvals


Note:

Some restrictions affecting the scope of functions of this device might occur due to country specific regulations.

Countries	Identification	2,4 - 2,4835 GHz IEEE 802.11b/g	Limitations
Belgium	CE ①	X	The device in the 5150-5350 MHz may only be used indoors. TPC and DFS are mandatory for 5GHz-band.
Germany	CE ①	X	
Finland	CE ①	X	
Greece	CE ①	X	
Ireland	CE ①	X	Indoor use only restriction in the 5150-5350 MHz band
Latvia	CE ①	X	
Luxembourg	CE ①	X	Only indoor use for the frequency band of 5150 - 5350 MHz. Only mobile applications allowed in the 5 GHz band.RLA N/WLAN used for public service need a general autorisation from the ILR (Institut Luxembourgeois de Regulation)
Netherlands	CE ①	X	
Poland	CE ①	X	
Sweden	CE ①	X	
Slovenia	CE ①	X	
Czech Republic	CE ①	X	
Cyprus	CE ①	X	
Denmark	CE ①	X	
Estonia	CE ①	X	
France	CE ①	X	

Great Britain	CE ①	X	
Italy	CE ①	X	
Lithuania	CE ①	X	
Malta	CE ①	X	Consequently this equipment may be placed on the local market, subject that a copy of the Declaration of Conformity is submitted to this Authority by the person intending to market the equipment.
Austria	CE ①	X	
Portugal	CE ①	X	Information: for this type of applications an integral or dedicated antenna is required in the frequency of 5250-5350MHz and 5470-5725MHz DFS and TPC are mandatory If the equipment does not have DFS implemented the use will be limited to the frequency of 5150-5250MHz, with a maximum output power limited of e.i.r.p of 0.25mW/25kHz for each 25kHz.the maximum output power should be in E.I.R.P

Slowakia	CE ①	X	Int the Slovak Republic operation of the wireless LAN equipment is allowed in the frequency band 2400 - 24835 MHz against the conditions laid down in the General authorisation No. VPR-01/2001 (20 dBm EIRP) issued by the Telecommunications Office of the SR. In the frequency band 5150 - 5350 MHz operation of WLAN equipment is allowed against the conditions laid down in the General authorisation No.: VPR-03/2004 (indoor only: 5150 - 5350 with DFS: 200mW EIRP with TPC, 120mW EIRP without TPC; 5150 - 5250 without DFS: 120mW EIRP with TPC, 60mW EIRO without TPC)In the frequency band 5470 - 5725 MHz operation of WLAN equipment is allowed against the conditions laid down in the General authorisation No.: VPR-07/2004 (1W EIRP, DFS + TCP is required)
Spain	CE ①	X	
Hungary	CE ①	X	
Switzerland	CE ①	X	
Norway	CE ①	X	
Iceland	CE ①	X	

6.1 Directives

RAC 2110

RAC 2120

in their versions as brought into circulation by ads-tec GmbH comply with the regulations of the following EU Directives:

99/5/EEC

Directive of the European Parliament and the European Council for harmonization of the legislations of individual EU countries with respect to Radio & Telecommunication Terminal Equipment (RTTE) and for mutual recognition of equipment conformity.

Conformity with the basic requirements of this directive is proven by compliance with the following standards:

EN 60950

Safety of information technology equipment

EN 301489-1

Electromagnetic compatibility (EMC) and radio spectrum matters (ERM); Electromagnetic compatibility (EMC) standard for radio equipment and services

EN 301489-17

Electromagnetic compatibility and radio spectrum matters (ERM); Electromagnetic compatibility (EMC) standard for radio equipment; Part 17: Specific conditions for Broadband Data Transmission Systems

EN 300328

Electromagnetic compatibility (EMC) and radio spectrum matters (ERM)

EN 301893

Broadband Radio Access Networks (BRAN); 5 GHz high performance RLAN

EN 50371

Generic standard to demonstrate the compliance of low power electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (10MHz - 3GHz)

1999/519/EC

Council Recommendation of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)

Any equipment connected to the system must also comply with all relevant safety regulations.

This EC Conformity Declaration is kept available for the authorities in charge in accordance with above mentioned EEC directives at the following location:

ads-tec GmbH

Raiffeisenstraße 14

D-70771 Leinfelden-Echterdingen / Oberaichen

Although this declaration certifies the conformity with all mentioned directives, it cannot be considered as a warranty of any specific features.

7 Technical Details

Device Data

RAC2000 series

Operating System	Embedded Linux
Configuration Protocol	http, https
Power Supply	24V DC +/- 20%, redundant power input
Interfaces	1 x RJ45 100BaseTx FD 1 x SIM Reader, 2 x Mini-PCI Connection, 2x USB
External Device Dimensions	137 mm x 98mm x 46mm
Weight	ca. 0,5 kg
Protection Class	Front sided IP65
Maximum current consumption	max. 400 mA at 24V DC
ambient temperature	in Operation -20°C ... + 55°C (if installed vertically) For Storage -20°C ... + 55°C


Note:

For detailed information of this device see our website
<http://www.ads-tec.com>.

8 Service & Support

The ads-tec company and their partner companies offer a comprehensive service and support to your customers providing a quick and professional support in case of any question with respect to ads-tec products and components.

Since the devices from ads-tec company are also used by partner companies, these devices might be configured according to specific customer requirements. Should any question or issue with respect to specific configurations and software installations arise, it can only be resolved by the system manufacturer.

For devices not directly purchased from ads-tec, we cannot be responsible for the support. In this case, the support is provided by our partner company.

8.1 ads-tec Support

The ads-tec support team is available for direct clients from Monday to Friday from 08:30 AM to 05:00 PM using the following phone number:

Tel: +49 7022 2522-202

Fax: +49 7022 2522-2602

E-Mail: support@ads-tec.de

8.2 Company address

ads-tec GmbH
Heinrich-Hertz-Str. 1
D-72622 Nürtingen
Germany

Phone: +49 (0) 7022 2522-0

Fax: +49 (0) 7022 2522-400

E-Mail: mailbox@ads-tec.de

Home: www.ads-tec.de

9 Declaration of CE-Conformity

RAC2110

Konformitätserklärung gemäß dem Gesetz über Funkanlagen und Telekommunikationsendeinrichtungen (FTEG) und der Richtlinie 1999/5/EG (R&TTE) <i>Declaration of Conformity in accordance with the Radio and Telecommunications Terminal Equipment Act (FTEG) and Directive 1999/5/EC (R&TTE Directive)</i>	
	
Hersteller / Verantwortliche Person <i>The manufacturer / responsible person</i>	Thomas Mögerle ads-tec GmbH Raiffeisenstr. 14 70771 Leinfelden-Echterdingen / Germany Tel. +49 (0)711-45894-0 Fax +49 (0)711-45894-985
erklärt, dass das Produkt <i>declares that the product</i>	RAC 2000
Type <i>Type</i>	Industrial WLAN Access Client
Modell <i>Model</i>	DVG-RAC2110-101-BU
Verwendungszweck <i>Intended purpose</i>	Wireless Communication
bei bestimmungsgemäßer Verwendung den grundlegenden Anforderungen des § 3 und den übrigen einschlägigen Bestimmungen des FTEG (Artikel 3 der R&TTE) entspricht <i>complies with the essential requirements of §3 and the other relevant provisions of the FTEG (Article 3 of the R&TTE Directive), when used for its intended purpose.</i>	
angewendete harmonisierte Normen <i>Harmonised standards applied</i>	Sicherheit gemäß § 3 (1) 1. (Artikel 3 (1) a)) <i>Safety requirements pursuant to § 3 (1) 1. (Article 3(1) a))</i> EN 60950-1: 2006 Part 1
angewendete harmonisierte Normen <i>Harmonised standards applied</i>	Schutzanforderungen in Bezug auf die EMV § 3 (1) 2. Artikel 3 (1) b)) <i>Protection requirements concerning EMC § 3(1)(2), (Article 3(1)(b))</i> EN 301 489-1 V1.8.1; EN 301 489-17 V1.3.2
angewendete harmonisierte Normen <i>Harmonised standards applied</i>	Maßnahmen zur effizienten Nutzung des Funkfrequenzspektrums <i>Measures for the efficient use of the radio frequency spectrum</i> EN 300 328 V1.7.1; EN 301 893 V1.4.1 *
Schnittstellenspezifikation <i>Interface specification</i>	Luftschnittstelle bei Funkanlagen gemäß § 3(2) (Artikel 3(2)) <i>Air interface of the radio systems pursuant to § 3(2) (Article 3(2))</i>
<small>* Mit Wirkung zum 1. Juli 2008 begründet diese Fassung der Norm die Vermutung der Konformität mit den Anforderungen von Artikel 3 Absatz 2 der Richtlinie 1999/5/EG, und zwar unter folgender zusätzlicher Bedingung: Der in Geräten, die im Frequenzband 5600-5650 MHz senden, verwirklichte Mechanismus der dynamischen Frequenzwahl (Dynamic Frequency Selection - DFS) muss in der Lage sein, auch solche Wetterradaranlagen zu erkennen, bei denen die zwischen den Impulsen liegenden Zeitspannen nicht konstant sind. Ihre Impulsfolgenfrequenzen (Pulse Repetition Frequencies - PRF) werden oft auch als gestaffelt oder verschoben bezeichnet und können bis zu drei verschiedene Werte annehmen. As of 1 July 2008 this version of the standard gives presumption of conformity with the requirements of article 3.2 of 1999/5/EC under the following additional condition: The Dynamic Frequency Selection (DFS) mechanism implemented by equipment transmitting in the frequency band 5600-5650 MHz, must also be able to detect meteorological radars employing non-constant pulse interval times. These are often referred to as staggered or interleaved PRFs (Pulse Repetition Frequencies) by which up to 3 different PRF values are used.</small>	
Ort, Datum <i>Place & date of issue</i>	Leinfelden-Echterdingen, 07/16/2009
Name und Unterschrift <i>Name and signature</i>	<div style="display: flex; justify-content: space-between;"><div> Eppur Bossler - Qualitätsmanager / Quality Manager -</div><div> Thomas Mögerle - Leiter Geschäftsbereich Datentechnik / Manager Business Unit Data Systems -</div></div>

RAC2120

Konformitätserklärung gemäß dem Gesetz über Funkanlagen und Telekommunikationsendeinrichtungen (FTEG) und der Richtlinie 1999/5/EG (R&TTE) <i>Declaration of Conformity in accordance with the Radio and Telecommunications Terminal Equipment Act (FTEG)</i> <i>and Directive 1999/5/EC (R&TTE Directive)</i>	
	
Hersteller / Verantwortliche Person <i>The manufacturer / responsible person</i>	Thomas Mögerle ads-tec GmbH Raiffeisenstr. 14 70771 Leinfelden-Echterdingen / Germany Tel. +49 (0)711-45894-0 Fax +49 (0)711-45894-985
erklärt, dass das Produkt <i>declares that the product</i>	RAC 2000
Type <i>Type</i>	Industrial WLAN Access Client
Modell <i>Model</i>	DVG-RAC2120-101-BU
Verwendungszweck <i>Intended purpose</i>	Wireless Communication
bei bestimmungsgemäßer Verwendung den grundlegenden Anforderungen des § 3 und den übrigen einschlägigen Bestimmungen des FTEG (Artikel 3 der R&TTE) entspricht. <i>complies with the essential requirements of §3 and the other relevant provisions of the FTEG (Article 3 of the R&TTE Directive), when used for its intended purpose.</i>	
angewendete harmonisierte Normen <i>Harmonised standards applied</i>	Sicherheit gemäß § 3 (1) 1. (Artikel 3 (1) a)) <i>Safety requirements pursuant to § 3 (1) 1. (Article 3(1) a))</i> EN 60950-1: 2006 Part 1
angewendete harmonisierte Normen <i>Harmonised standards applied</i>	Schutzanforderungen in Bezug auf die EMV § 3 (1) 2, Artikel 3 (1) b)) <i>Protection requirements concerning EMC § 3(1)(2), (Article 3(1)(b))</i> EN 301 489-1 V1.8.1; EN 301 489-17 V1.3.2
angewendete harmonisierte Normen <i>Harmonised standards applied</i>	Maßnahmen zur effizienten Nutzung des Funkfrequenzspektrums <i>Measures for the efficient use of the radio frequency spectrum</i> EN 300 328 V1.7.1; EN 301 893 V1.4.1 *
Schnittstellenspezifikation <i>Interface specification</i>	Luftschnittstelle bei Funkanlagen gemäß § 3(2) (Artikel 3(2)) <i>Air interface of the radio systems pursuant to § 3(2) (Article 3(2))</i>
<small>* Mit Wirkung zum 1. Juli 2008 begründet diese Fassung der Norm die Vermutung der Konformität mit den Anforderungen von Artikel 3 Absatz 2 der Richtlinie 1999/5/EG und zwar unter folgender zusätzlicher Bedingung: Der in Geräten, die im Frequenzband 5600-5650 MHz senden, verwirklichte Mechanismus der dynamischen Frequenzwahl (Dynamic Frequency Selection - DFS) muss in der Lage sein, auch solche Weitbereichsanlagen zu erkennen, bei denen die zwischen den Impulsen liegenden Zeitspannen nicht konstant sind. Ihre Impulsfolgefrequenzen (Pulse Repetition Frequencies - PRF) werden oft auch als gestaffelt oder verschoben bezeichnet und können bis zu drei verschiedene Werte annehmen. As of 1 July 2008 this version of the standard gives presumption of conformity with the requirements of article 3.2 of 1999/5/EC under the following additional condition: The Dynamic Frequency Selection (DFS) mechanism implemented by equipment transmitting in the frequency band 5600-5650 MHz, must also be able to detect meteorological radars employing non-constant pulse interval times. These are often referred to as staggered or interleaved PRFs (Pulse Repetition Frequencies) by which up to 3 different PRF values are used.</small>	
Ort, Datum <i>Place & date of issue</i>	Leinfelden-Echterdingen, 07/16/2009
Name und Unterschrift <i>Name and signature</i>	<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">  Elmer Bossler <i>- Qualitätsmanager / Quality Manager -</i> </div> <div style="text-align: center;">  Thomas Mögerle <i>- Leiter Geschäftsbereich Datentechnik / Manager Business Unit Data Systems -</i> </div> </div>